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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,045	06/27/2003	Jeremy Paul Smith	693-11-PA	8479
22145	7590	12/09/2004	EXAMINER	
KLEIN, O'NEILL & SINGH			LOKE, STEVEN HO YIN	
2 PARK PLAZA			ART UNIT	
SUITE 510			PAPER NUMBER	
IRVINE, CA 92614			2811	

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/609,045	Applicant(s) SMITH ET AL.	
	Examiner Steven Loke	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 4-7 is/are allowed.
- 6) ☒ Claim(s) 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/4/04</u> .                                                             | 6) <input type="checkbox"/> Other: _____                                    |

1. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10, line 13, the phrase "each multi-junction diode is connected in the same sense" is vague and indefinite. Fig. 5 discloses at least one of the further diodes is a multi-junction diode in device 10'b and the at least one of further diodes is connected in the opposite direction to the first multi-junction diode. Therefore, it is believed that each multi-junction diode, except said at least one of the further diodes, is connected in the same sense between a respective input means and a common terminal.

Claim 11, line 12, the phrase "each multi-junction diode is connected in the same sense" is vague and indefinite. Fig. 6 discloses each of the further diodes is a multi-junction diode in the devices [10'a, 10'b, 10'c] and each of the further diodes is connected in the opposite direction to the first multi-junction diode. Therefore, it is believed that the each multi-junction diode, except said further diodes, is connected in the same sense between a respective input means and a common terminal.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 11 insofar, as in compliance with 35 U.S.C. 112, is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Byatt et al. (in the IDS filed on 10/4/04).

In regards to claim 11, Byatt et al. show all the elements of the claimed invention in figs. 1, 3 and 17. It is a semiconductor component [1, 2, 3] suitable for limiting transient voltage on the supply lines (a first line that connected to terminal [7], a second line that connected to terminal [9] and a ground line that connected to terminal [8]) of a system having at least three supply lines, one of the supply lines (a ground line that connected to terminal [8]) being a current sink, the semiconductor comprising: at least three input means (7, 9, 8 in fig. 3) for connection to respective ones of the supply lines; and for each input means, a respective overvoltage-triggered semiconductor protection unit (1, 2, 3); wherein each protection unit comprises a multi-junction diode ([14, 13, 12, 11, 10] in the diode pair [1], [26, 20, 21, 22, 24] in the diode pair [2], [34, 33, 32, 31, 30] in the diode pair [3]) which has a threshold voltage at which it changes from a high-impedance state to a low-impedance state (col. 4, line 53 to col. 5, line 2) and a respective further diode ([13, 11, 16, 10, 17] in the diode pair [1], [20, 21, 22, 23, 24] in the diode pair [2], [33, 31, 30, an n-type region in region [30]] in the diode pair [3]) connected in shunt with the multi-junction diode and in the opposite sense to the multi-junction diode, each of the further diodes being a multi-junction diode; each multi-junction diode, except the further diodes, is connected in the same sense between a respective input means [7, 8, 9] and a common terminal [6].

It is inherent that each protection unit is adapted to use a lateral turn on current because the n+ type regions [15, 25, 35] direct the trigger (turn on) current from the common contact through the p-type regions [10, 23, 30] and the n-type regions [11, 12, 21, 31, 32] to the p-type regions [13, 20, 33] and the terminals [7, 9, 8]. The trigger

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current has a lateral turn on current component when the current pass through the n+ type regions [15, 25, 35].

4. Claims 1 and 4-7 are allowed.
5. Claim 10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (571) 272-1657. The examiner can normally be reached on 7:50 am to 5:20 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sl  
December 7, 2004

Steven Loke  
Primary Examiner  
